

REMARKS

Claims 1-13 are pending in the application. The Examiner has withdrawn Claims 11-13 by way of a restriction requirement, which is traversed herein. Claim 1 is amended. Support for the claim amendment can be found at, for example, Page 2, lines 16-18 of the specification.

The Examiner has restricted the invention under 35 U.S.C. § 121 as including two distinct inventions, Group I (Claims 1-10) and Group II (Claims 11-13). Applicants traverse the restriction requirement on the grounds that a search of Group I claims would be coextensive with a search of Group II claims. Thus, examining all of the claims on the merits at the same time would not place an undue burden on the Examiner. Therefore, the restriction requirement should be withdrawn.

Should the Examiner be unpersuaded, Applicants affirm the election of Group I, Claims 1-10.

Claims 1-10 stand rejected under 35 U.S.C. § 112, second paragraph as the Examiner indicates that the term "the aqueous polymer latex" has insufficient antecedent basis. Claim 1, as amended provides proper antecedent basis for the indicated phrase. Therefore, the rejection of Claims 1-10 under 35 U.S.C. § 112, second paragraph should be withdrawn.

Claims 1, 2, 4, 8, 9, and 10 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,948,852 to Moore (hereinafter "Moore"). The Examiner alleges that Moore discloses the claimed invention. Applicants respectfully disagree.

Moore discloses fluoroelastomers prepared by free radical emulsion polymerization. The resulting polymer dispersion is stabilized with an inert surface-active agent. After polymerization, unreacted monomer is removed from the reactor effluent latex by vaporization at reduced pressure. The polymer is recovered from latex by coagulation, e.g., by reducing pH to about 3 by acid addition and adding a salt solution, followed by separation of serum from polymer, washing with water, and drying of the wet polymer. The fluoroelastomers made by the method are generally cured by a free radical process. A curable composition comprises polymer and a peroxide to generate free radicals at curing temperatures. Optionally, the fluoroelastomer is blended at least one metal compound selected from divalent metal oxides, or divalent metal hydroxides, and optionally a metal salt of a weak acid, such

as phosphite, can also be used along with the oxide and/or hydroxide. These materials are blended with the fluoroelastomer during preparation or before it is cured.

In summary, the preparation process of the fluoroelastomer disclosed by Moore requires:

1. Reducing the pH of the latex to a pH of about 3,
2. Adding a salt solution to the latex to cause coagulation,
3. Isolating, washing and drying the coagulated polymer,
4. Optionally blending the fluoroelastomer with a divalent metal oxide and optionally including a metal phosphite, and
5. Curing the fluoroelastomer.

The addition of the metal oxide to the coagulated fluoroelastomer using a two-roll mill is described in Example 1 at col. 6, lines 57-64 of Moore.

Thus, the optional metal phosphite disclosed by Moore, is not added to a latex as part of a coagulation process, but is milled into a coagulated fluoroelastomer. Thus Moore does not disclose coagulating an aqueous polymer latex by contacting it with A) an aqueous solution of at least one salt selected from the group consisting of sodium chloride, calcium chloride, magnesium chloride, aluminum chloride, sodium sulfate, magnesium sulfate and aluminum sulfate; B) an aqueous solution of at least one salt of an acid selected from the group consisting of hypophosphorous acid (H_3PO_2), phosphorous acid (H_3PO_3 or HPO_2) and ascorbic acid; and optionally C) an aqueous dilute acid selected from the group consisting of sulfuric acid, phosphoric acid and acetic acid.

As Moore does not disclose all of the limitations of the claimed invention, the claims can not be anticipated by Moore. Therefore, the rejection of Claims 1, 2, 4, 8, 9, and 10 under 35 U.S.C. § 102(b) should be withdrawn.

Claims 1, 4, and 7-10 stand rejected under 35 U.S.C. § 102(b) as being obvious over U.S. Patent No. 5,169,903 to Toritani et al. (hereinafter "Toritani"). The Examiner alleges that Toritani discloses the claimed invention. Applicants respectfully disagree.

In Example 6, as indicated by the Examiner, Toritani discloses coagulating a latex by adding styrenated phenol, dilauryl thiodipropionate, triphenyl phosphite and dilute sulfuric acid to the latex.

In order to anticipate a claim, a prior art reference must disclose every limitation of the claim.

Amended Claim 1 describes coagulating an aqueous polymer latex by contacting it with A) an aqueous solution of at least one salt selected from the group consisting of sodium chloride, calcium chloride, magnesium chloride, aluminum chloride, sodium sulfate, magnesium sulfate and aluminum sulfate; B) an aqueous solution of at least one salt of an acid selected from the group consisting of hypophosphorous acid (H_3PO_2), phosphorous acid (H_3PO_3 or HPO_2) and ascorbic acid; and optionally C) an aqueous dilute acid selected from the group consisting of sulfuric acid, phosphoric acid and acetic acid.

Toritani does not disclose using a material listed in part (B) of the claimed process. Hence, Toritani does not disclose of the limitations in amended claim 1 and does not anticipate the claims. Therefore, the rejection of Claims 1, 4, and 7-10 under 35 U.S.C. § 102(b) should be withdrawn.

Claims 1, 4, 7, 9 and 10 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,534,594 to Troy et al. (hereinafter "Troy"). The Examiner alleges that Troy discloses the claimed invention. Applicants respectfully disagree.

Troy discloses a process for preparing core/shell polymers. The process includes agglomeration of the rubbery polymer to increase particle size during the polymerization process.

As amended, the present claims are directed to a process for working up an aqueous polymer latex prepared by emulsion polymerization by coagulating the aqueous polymer latex formed after polymerization. Coagulation is the "precipitation of colloids in a soft mass." Grant, Hack's Chemical Dictionary, Fourth Edition, McGraw-Hill, New York, NY (1972).

Troy discloses methods of increasing particle size during polymerization, while process of the present invention is directed to a method where a latex is formed and then coagulated. One skilled in the art would not look to a method of increasing particle size to discover how to coagulate a latex.

In order to anticipate a claim, the prior art reference must disclose the claimed invention. Since Troy does not disclose a method of coagulating a latex, it cannot

anticipate the claims. Therefore, the rejection of claims 1, 4, 7, 9 and 10 under 35 U.S.C. § 102(b) should be withdrawn.

Claims 3, 5 and 6 stand rejected under 35 U.S.C. § 103(a) as being obvious over Toritani in view of U.S. Patent No. 5,063,259 to Wanat et al. (hereinafter "Wanat"). The Examiner alleges that it would have been obvious to substitute sodium hypophosphite as disclosed by Wanat for the triphenyl phosphite disclosed by Toritani. Applicants respectfully disagree.

Toritani discloses by way of the Examples therein, a method of coagulating polymers by adding styrenated phenol, dilauryl thiodipropionate and triphenyl phosphite to the latex and coagulating at 50°C with 0.25% aqueous sulfuric acid at a latex/water ratio of 1/2 and maintained at 85°C for 5 minutes.

Wanat discloses plastics prepared from blends of polymers of methyl methacrylate with heterogeneous core/shell polymers having a poly(alkyl acrylate) core and a poly(alkyl methacrylate) shell that exhibit improved color when the heterogeneous core/shell polymer is treated with a reducing agent.

A conclusion of obviousness may be based on a combination of references only where there is some reason, suggestion, or motivation to combine those references to arrive at the claimed invention.

Applicants solved the problem of deterioration in polymer color by adding the claimed materials to the molding compositions at the coagulation step of in the processing of emulsion polymerized polymers.

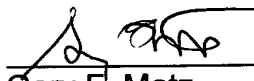
Toritani discloses adding a mild stabilizing agent, triphenyl phosphite, during coagulation of a latex. Wanat teaches adding a strong reducing agent to a latex, with no mention or requirement that such a material be added when coagulating the latex. Hence, there is no motivation, looking either to Toritani or Wanat to combine the references as the Examiner has done, because there is no suggestion in either or both references to add a strong reducing agent when coagulating a latex to minimize color deterioration in a polymer. The Examiner has improperly used the claimed invention as a template and used improper hindsight to pick and choose references to reconstruct the invention.

Because the Examiner has used improper hindsight to improperly combine Toritani and Wanat, and because no combination of Toritani and Wanat disclose, teach or in any way suggest the claimed process, the claims are not obvious over

Toritani and Wanat. Therefore, the rejection of Claims 3, 5 and 6 under 35 U.S.C. § 103(a) should be withdrawn.

In view of the above amendments and remarks, reconsideration of the rejections and allowance of Claims 1-13 are respectfully requested.

Respectfully submitted,

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